RE4DY

MANUFACTURING DATA NETWORKS

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| Document Owners | Katia Lavín, INNO; Jesús Alonso, INNO; Óscar Lázaro, INNO. |
| Contributors | POLIMI |
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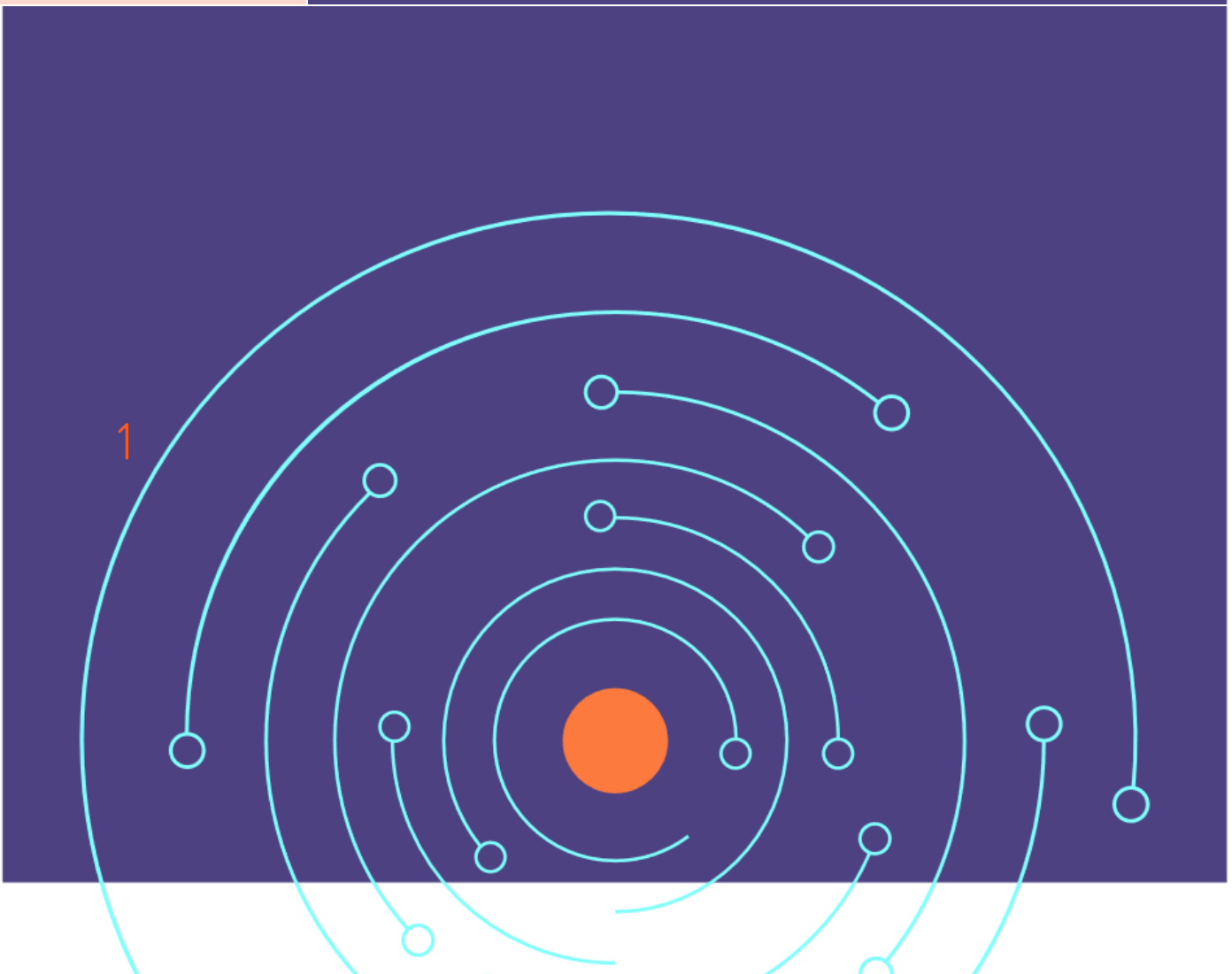

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# Project Partners

| Number | Participant organisation name | Acronym |
|---|---|---|
| 1 | ASOCIACIÓN DE EMPRESAS TECNOLÓGICAS INNOVALIA | INNO |
| 2 | CHALMERS TEKNISKA HOGSKOLA AB | Chalmers |
| 3 | INTERNATIONAL DATA SPACES EV | IDSA |
| 4 | VOLKSWAGEN AUTOEUROPA, LDA | VWAE |
| 5 | ASSECO CEIT AS | CEIT |
| 6 | UNINOVA-INSTITUTO DE DESENVOLVIMENTO DE NOVAS TECNOLOGIAS-ASSOSIACAO | UNI |
| 7 | FILL GESELLSCHAFT MBH | FILL |
| 8 | AVL LIST GMBH | AVL |
| 9 | VISUAL COMPONENTS OY | VIS |
| 10 | UNIVERSIDAD MIGUEL HERNANDEZ DE ELCHE | UMH |
| 11 | ATLANTIS ENGINEERING AE | ATLANTIS |
| 12 | DATAPIXEL SL | DATA |
| 13 | CORE KENTRO KAINOTOMIAS AMKE | CORE |
| 14 | UNIVERSITETE I OSLO | UiO |
| 15 | GE AVIO | AVIO |
| 16 | ENGINEERING-INGENIERIA INFORMATICA SPA | ENG |
| 17 | POLITECNICO DI MILANO | POLIMI |
| 18 | ATOS IT SOLUTIONS AND SERVICES IBERIA SL | AtoS |
| 18.1 | ATOS SPAIN SA | AtoS-ES |
| 19 | KATHOLIEKE UNIVERSITEIT LEUVEN | KU |
| 20 | NETCOMPANY-INTRASOFT SA | INTRA |
| 21 | NOVA ID FCT - ASSOCIACAO PARA A INOVACAO E DESENVOLVIMENTO DA FCT | NOVA |
| 22 | INDUSTRY COMMONS FOUNDATION (INSAMLINGSSTIFTELSE) | ICF |
| 23 | ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS | CERTH |
| 24 | GRUPO S 21SEC GESTION SA | S21SEC |
| 25 | UNIVERSITAT POLITECNICA DE VALENCIA | UPV |
| 26 | CONSIGLIO NAZIONALE DELLE RICERCHE | CNR |
| 27 | SOCIEDAD ANDALUZA PARA EL DESARROLLO DE LAS TELECOMUNICACIONES SA | SANDETEL |
| 28 | SWITZERLAND INNOVATION PARK BIEL/BIENNE AG | SSF |
| 29 | GF MACHINING SOLUTIONS AG | GFMS ADVMAN |
| 30 | FRAISA SA | Fraisa SA |
| 31 | SIEMENS SCHWEIZ AG | SIE |

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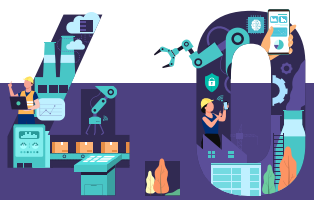

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# Glossary of Acronyms

| Acronym | Description |
|---|---|
| AIDA | Awareness Interest Desire Action |
| D&C | Dissemination & Communication |
| DFA | Digital Factory Alliance |
| DIHs | Digital Innovation Hubs |
| EC | European Commission |
| EU | European Union |
| IOT | Internet Of Things |
| IPR | Intellectual Property Rights |
| KPIs | Key Performance Indicators |
| NGOs | Non-Governmental Organizations |
| PR | Public Relations |
| SMEs | Small Manufacturing Enterprises |
| SW | Software |
| TEFs | Testing & Experimentation Facilities |
| WP | Work Package |

# EXECUTIVE SUMMARY

D6.2, Skills development, knowledge transfer and communication plan, is the second deliverable of the WP6. In this second version of the Skills development, knowledge transfer and communication plan, there is a revised and updated version of methodologies, assets, models and communities to maximize visibility, mobilization, replication potential and impact in business and standardization. In addition, there is also a section updating the skills development plan from D6.1 with Skills development methodologies and the implementation of a training plan to fulfil the European Commission standards.

In order to implement the strategy outlined in D6.1, the project consortium has set up a professional PR office led by the DFA (Digital Factory Alliance – digitalfactoryalliance.eu). This professional PR office has identified nine target audiences' groups: (1) Research & Science Community, (2) Manufacturing EU sectors, (3) Related Projects, (4) EU Organisations, Financial Actors & Policy Makers, (5) General Public & Media, (6) Associations, alliances and DIHs, (7) Manufacturing community, DFA network and DIHs, (8) Sustainable manufacturing platforms, DIHs and Research Organizations, and (9) Standardisation Bodies. Each of these 9 target audiences have differentiated communication channels and training tools. Within this structure, concrete communication actions have been planned.

The communications plan was developed around a centralized approach coordinating different sources, contacts and partners networks to ensure that the communication channels and messages of RE4DY arrive to the external audience in the appropriate form and favouring the creation of synergies in all communication efforts. In addition, this plan is flexible and decentralized by allowing each partner to lead the communication in their networks, creating a RE4DY ecosystem while encouraging inter-project collaboration with other EU Initiatives to orchestrate the symphony of retaining European manufacturing competitiveness in the era of Industry 4.0.

More attention is given and will continue to be given to communication and dissemination activities, as many activities require a huge engagement and clear reporting of outreach channels, partners involved and activities implemented to fulfil the planned KPIs.

In addition, the Plan has focused on the development of new digital skills and skill development methodologies to provide high value profiles to the companies, moving them towards a more technological and connected environment.

# 1 Introduction

Among the different objectives of the project RE4DY, it is key to set up a professional PR office that will create high impact and visibility on the RE4DY results in order to keep internal and external audiences, including media and the public, informed in a strategic and effective manner. Dissemination is one of the key promoters of the creation of Communities and Interest Groups in order to propagate and multiply awareness and knowledge of the project.

## 1.1 Purpose and scope

Deliverable 6.2 is the second report of WP10 "Skills development, knowledge transfer and communication plans", due on the twelfth month of the project. This deliverable reports on the communication strategy and action plans, updating an overarching three-phase strategy to communicate the plan and actions that feed into future achievements and results of the tasks:

- 6.1: Awareness raising, industrial demonstrations, communication and PR office.
- 6.2: Didactic & Learning Factory Network Academy and European Network of DIHs.
- 6.3: Impact analysis & commercial exploitation.
- 6.4: Value network & data space business development.

# 2 Communication Strategy

RE4DY encompasses the complete spectrum of potential users and applications, taking into account the associated concerns regarding the distribution, utilization, and control of intellectual property rights (IPR) through proactive planning and agreements. The subsequent sections provide comprehensive information on the planned procedures and the tools at hand for the strategy of disseminating and taking advantage of the project's outcomes.

More attention is given and will continue to be given to communication and dissemination activities, as many activities require a huge engagement and clear reporting of outreach channels, partners involved and activities implemented to fulfil the planned KPIs.

**Dissemination & Communication plan (D&C plan):**

As outlined in RE4DY's Grant Agreement and previous deliverable D6.1, the **Communication objectives** of RE4DY are to (1) reach to the public and raise awareness about the projects, its expected results, outcomes and impacts within defined target groups; and to make the project a valid source of information; and (2) create synergies and exchange experience with projects and groups active in the field, to join efforts and maximize common potential.

Likewise, RE4DY's **Dissemination objectives** are to: (1) create public awareness and generate scientific interest; (2) directly involve stakeholders that could help bridging the gap between RE4DY and its market application; (3) maximise the impacts of the project achievements; (4) diffuse acquired knowledge, methodologies and technologies developed and tested during the project; (5) facilitate cooperation with other projects.

The first D&C plan presented in the Grant Agreement is structured in four main phases according to the AIDA model (Awareness, Interest, Desire, Action). It is a model used by a wide spectrum of organisations and is suitable for attracting and building relation with stakeholders.

In D6.1, the D&C plan was overall generic and focused on the first months of the project (M1-M9), which are already consolidated. In this D6.2, the overall timeline for the D&C activities and stages that D&C strategy will follow are as shown in the graph below:

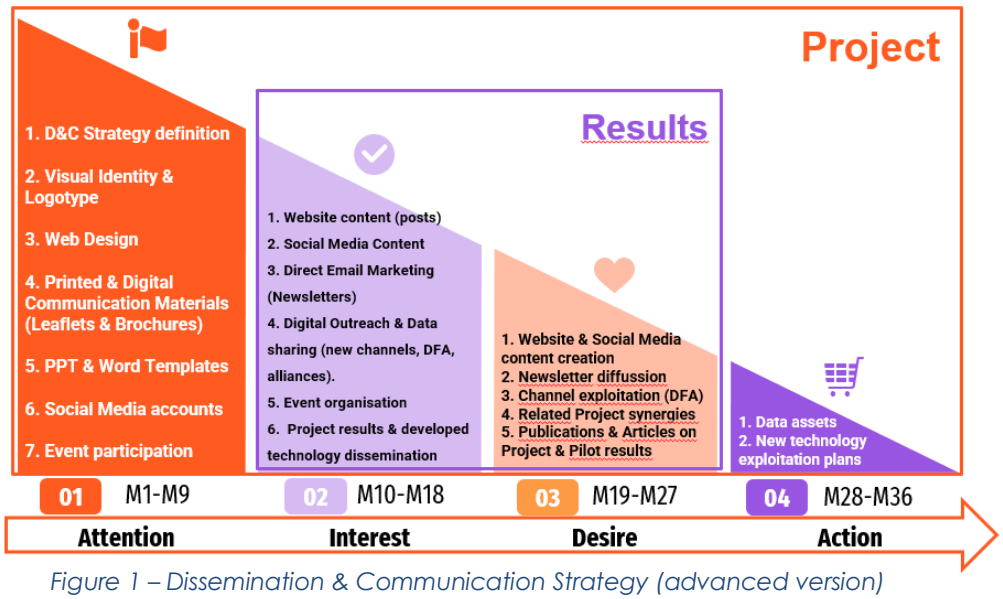



*Figure 1 – Dissemination & Communication Strategy (advanced version)*

The AIDA model (Awareness, Interest, Desire, Action) includes four main phases when preparing a D&C Strategy that are as follows:

1 – **Awareness / Initial Phase** (M1-M9): to build awareness for RE4DY, making the project visible and recognisable, sharing its objectives, values and technological innovation(s). Visual identity and logotype, templates website and social media accounts are set. *Channels & Tools: Website and social media.*

2- **Interest / 1st Intermediate Phase** (M109-M18): the early results will be disseminated via publications and scientific papers to journals, to increase the interest to researchers and scientific communities, presenting in conferences and events. Communication actions will continue leveraging the potentials of social media, website and newsletters. Partnering with other projects is another important pursue during this phase. *Channels & Tools: website, newsletters, social media, networks, publications.*

3- **Desire / 2nd Intermediate Phase** (M19-M27): this phase will focus on further engagement of the targeted audiences with the project. Dissemination of evolving results through events and publications will create additional interest in RE4DY. Informing target markets about the technological breakthroughs and business benefits of RE4DY is also an important part of this phase that works as a preparatory stage for the final mature phase. *Channels &* Tools: website, newsletters, social media, networks, publications.

4- **Action / Mature-Final Phase** (M28-M36): this phase will focus on maximizing target market and industry awareness about RE4DY's exploitable results. All the results will be disseminated through the aforementioned channels. Communications and dissemination efforts will support the project's sustainability and its effective exploitation and market replication. All the efforts made in the previous phases will be leveraged in this final stage. *Channels & Tools: website, newsletters, social media, events/conferences, videos, publications, articles, data.*

## 2.1. Timing of dissemination activities

The dissemination activities will differ in intensity based on the evolution of the project. The dissemination activities will be carried out in four main phases, spanning throughout the project duration and extend beyond it, starting from the creation of general awareness and concluding with attracting potential supporters and customers/users of the project results. The dissemination activities of the RE4DY project will be carried out in four main phases. The four phases are summarised below:

| **Phase** • Aim • Intensity | Content disseminated | Main target audiences | Dissemination Channels |
|---|---|---|---|
| Phase I: First 12 Months · Awareness raising · Light | Approach-oriented content; project presentation; objectives; expected results | Industrial & Technological communities; Potential end-users. | Website, Exhibitions, Leaflet & Brochures, Conference, Workshops. |
| Phase II: Till end of Project · Customers &constituency attraction · Medium | Result-oriented content; project intermediate and final results | Potential supporters & end-users, strategic partners. | Exhibitions, Trade fairs, Workshops, Focused publications, Conferences. |
| Phase III: During the year after the Project · Mature & Commercialize · Strong | Result-oriented content; final results; integrated experiment; showcases & lessons learnt | Potential supporters & end-users, strategic partners | Exhibitions, Trade fairs, Partners leaflets, press releases and publications. |
| Phase IV: One year after Project end · Commercial · Strong | Commercial components; methodological approaches; SW solution distribution; HW solutions | Business network, customers, strategic partners | Exhibitions, Trade fairs, Partners leaflets, press releases and publications. |

*Table 1 – Phases for the dissemination activities*

## 2.2. Main messages

Firstly, the main messages that have been communicated are the vision and mission of RE4DY and the concept of the project per se:

RE4DY's mission is to demonstrate how European industry can jointly build unique data driven manufacturing and supply network active resilience strategies, sustaining competitive advantages through digital sovereign across all phases of product and process lifecycle.

RE4DY extends the DFA Zero-X manufacturing connected smart Factory 4.0 model to meet future EFRA Industry 4.0 resiliency challenges.

Secondly, other messages that are being communicated, conforming to the strategy above, should be highly relevant to the following topics:

- What is RE4DY about? (RE4DY in a nutshell)
- What are RE4DY impacts and added value to Industry 4.0?
- What is expected to be achieved by RE4DY? (The main objectives and future outputs)
- What are RE4DY activities to achieve such expectations?
- Industrial trends affecting RE4DY progress.

These messages will both be transmitted in visual (e.g., logos, design items, images and videos) and written form. (e.g., press releases, news items, reports, presentations…) Messages will be customized according to different circumstances and the need of partners in a decentralized manner, all serving to convince the target audiences about how RE4DY can achieve its objectives, contribute to retain European manufacturing competitiveness and solve industry 4.0 challenges through its open transformative shared data-driven Factory 4.0 model. Deliverables available for the public and milestones achieved can be other messages of interest to certain target groups

## 2.3. Target audience

8 Different target groups were identified during the first phase of the project, based on their specialities a series of messages and goals were set. In order to ensure the correct dissemination of the information related there will be different channels established.

KPIs: W: website, N: newsletter, CE: conferences/Events, LF: LinkedIn followers, TF: twitter followers, P: publications, V: videos, A: articles, D: datasets

| Target Groups | Message and Goal | Channel |
|---|---|---|
| **Research and scientific community**: Universities and Research Institutes (fields on AI, IoT, CPPS, Sustainable production, etc) | Emphasize the developed new concepts, the circular chains and sustainability by design and AI in manufacturing for future research in the Academia and access to Open data repositories. | W, CE, LF, P, D |
| **Manufacturing EU sectors linked to RE4DY pilots:** machine and cutting tool industries, automotive sector, mega factories and eBattery industries, aeronautics sector | Show RE4DY objectives and key results, technologies developed and validated, with respective benefits from Connected Factories and Digital 4.0 Continuum | W, N, CE, LF, TF, P, A, V |
| **Related Projects** with similar research activity and values as RE4DY | Common ground, interests and actions in the fields of IoT, AI, Intelligent Manufacturing, Industrial Informatics | W, CE, LF, TF, D |
| **EU Organisations, Financial Actors and Policy Makers:** representatives of national bodies/ministries, EC and other Institutions | Value for them of the results and knowledge for benefits of being applicable to many sectors | W, LF, TF, P |

| | | |
|---|---|---|
| **General Public and Media:** EU citizens, online and offline Media, NGOs and other that have general interest in technology, innovation and engineering | Create awareness for the project's benefits for the society on sustainably designed products. What's the impact of RE4DY? What's the news? | W, LF, TF, P, V, D |
| **Associations, alliances and DIHs** as DARIO, I4MS, EFNMS, EFFRA, AIOTI, ZDM, DFA, CECIMO, BDVA, IDSA, DIHs | Diffuse the knowledge and how the results can be used and enabling them to build their own RE4DY value networks. | W, N, CE, LF, TF, P |
| **Manufacturing community, DFA network and DIHs** to use AI toolkits and achieve Zero-X processes | Scientific discoveries, knowledge on toolkits and Data as a Service and Federated Learning for resilient manufacturing and Supply Chain | W, N, CE, LF, TF, P |
| **Sustainable manufacturing platforms**, DIHs and Research Organizations on Resilient, Sustainable and Human-Centric manufacturing | Diffusion of knowledge and benefits of usage of the Action plan and adaptation of Industry 5.0 principles | W, N, CE, LF, TF, V, A, D |

*Table 2 – Audience of approach and message*

In addition to the above mentioned and previously mentioned target audiences as portrayed in D6.1, there is one more Target audience that has become key for RE4DY in the first 12 months of the project.

| | | |
|---|---|---|
| Standardization Bodies. | Standardisation process towards setting a common data space 'soft infrastructure', especially for data-driven manufacturing resilience | W, LF, TF, V, A, D |

*Table 3 – New identified audience of approach and message*

# 2.4. Community as a channel

RE4DY's Communication Strategy focuses on utilizing digital and physical communities as communication channels. The key reason to use communities as communication channels is that communities are longer lasting and have larger audiences than project communication channels.

## 2.4.1. DFA: PR Office

The Digital Factory Alliance (DFA) acts as the Public Relations and Communication Office (the PR office) established to be responsible for organising and conducting communication activities.


*Figure 2 – DFA Logo*

The activities related with communication are being carried out through the Digital Factory Alliance (DFA) channels. The PR Office is led by DFA (https://digitalfactoryalliance.eu/), who are responsible for all the online presence, including website, social media networks, coordinates among partners, organises webinars and teleconferences, and newsletters.

The DFA constructed a mailing list used in internal communication for reporting as well as coordination activities. It also motivates advisory board to become ambassadors for the project, generating word of mouth effect.

Through the DFA channels, RE4DY can have a direct impact open innovation and market-drive innovation sectors, companies and developers. Industry is slowly learning that Industrial Internet, AI and big data can bring business value to factory operations. However, the replication of such pilots to other factories is still a very limited, complex, time consuming and expensive process. Initiatives like BOOST 4.0 and Qu4lity evidenced that Industry 4.0 lacks from a common global knowledge platform which facilitates the community to learn from and with the best, accelerating digital transformation leverage.


*Figure 3 – Transforming Manufacturing Together*

As a result, the mission of the DFA is to take care that such community is nurtured, that such common foundations for data-driven factory transformations are set, shared and maintained and that successful big data driven pilots can leverage higher profits to industry in much shorter time scales. The four main pillars of the DFA are:

- Search of knowledge (Body of knowledge): Practical digital blackbelt guidance, 4Zero-X, 4Resilience, 4SMEs.
- Search for Solutions (Flagships initiatives): Large scale trials catalogue, digital factory network.
- Be part of a community (Innovation campus): Hands-on digital experimentation, Innovation catalogues.
- Search for services (Business network): Business development, Digital alliances, Digital product & solutions marketplace.

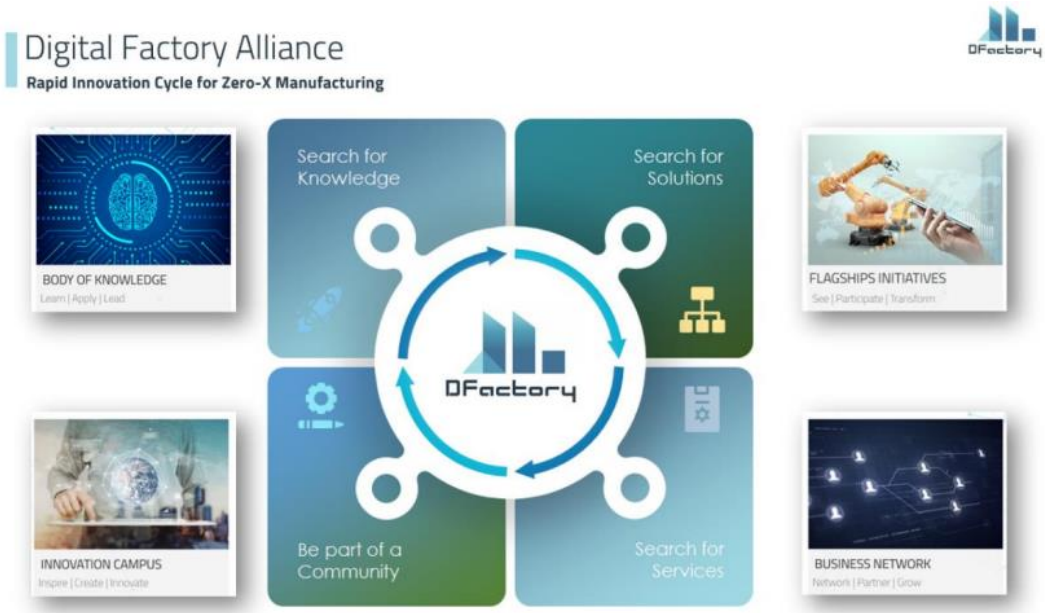



*Figure 4 – DFA Pillars*

One of the DFA most important pillars is the communication throughout the individual factories, the intention is to maintain a data-driven network to support the digital development of its members. The main activities to be carried out search to fulfil the following DFA main objectives:

- Boosting, or accelerating, the innovation and commercial exploitation of digital products that could develop and unfold the paradigms of Zero-Defect Manufacturing and Autonomous Quality, according to the scope and objectives of the RE4DY Project.
- Involving as many European companies as possible, being these both big and small and medium, who perform competitive processes., to advance towards the abovementioned paradigms.
- Pursuing a fast Return on Investment in today's digital investments, without compromising any future decisions, needs and processes regarding digital transformation.
- Advancing towards specific Networking and International Ecosystem-building activities, such as, for example:
    - Having common certification processes of digital components and systems.
    - Hosting a common vision and shared architectures.
    - Promoting the use of Open Standards and common and open data models.

With this approach, the DFA will serve as a multiplier for the project's dissemination and (pre)marketing activities being the only and unique communication and dissemination channel of results and information. The results obtained will be shown in the DFA marketplace. The DFA portal interacts with a wide variety of profiles like Testing and Experimentation Facilities (TEFs), Digital Innovation Hubs (DIHs), small or large manufacturing companies (SMEs), developers, researchers, and even other data or manufacturing-related EU projects. This portal attracts all these profiles due to its wide variety of services and open innovation vs. market-driven innovation approach.

RE4DY is able to benefit from DFA's portal for News dissemination, Event participation for project communication, participation in DFA's Digital Corner and Vimeo channel for project dissemination videos, spread of RE4DY's results in DFA's newsletter among many other advantages. In addition, the DFA gives access to all of RE4DY partners to some resources such as

- its Innovation Catalogue with Use cases and Components,
- the ZX Marketplace to showcase innovative solutions to the worldwide digital manufacturing community,
- THE Plug & Respond Network (P&R Network) for flexible adaptation of supply chain and distributed manufacturing capabilities in order to give fast response to crisis scenarios.

DFA audience from December 2022 to May 2023 is of 1.567-page viewers and there are also 913 subscribers to the newsletter. Regarding the social media impact, the statistics in LinkedIn and Twitter in July 2023 can be found below:

| Channel | Indicators | DFA | RE4DY |
|---|---|---|---|
| Twitter | #of followers | 1121 | 23 |
| | # of tweets[1] | 20 | 8 |
| | # of visits | 143 | 16 |
| LinkedIn Page | # of followers | 407 | 104 |
| | # of posts | 23 | 9 |
| | #new unique visitors | 385 | 233 |
| | # page views | 824 | 633 |
| | #impressions | 936 | 682 |
| LinkedIn Profile | # of followers | 1900 | NA |

*Table 4 – DFA & RE4DY Social Media Statistics*

Therefore, the DFA can offer a bigger audience of 1.500+ in its website, 1.200+ in its Twitter, 335+ in its LinkedIn Page and 1.900+ in its LinkedIn profile; with **an approximate total of 4.935 audience number.**

### 2.4.2. EFFRA

Another community that is serving the RE4DY project as a communication channel is the European Factories of the Future Research Association (EFFRA). EFFRA is a non-for-profit, industry-driven association promoting the development of new and innovative production technologies that has been representing the private side of the manufacturing partnership with the EU Commission. Its key objective is to promote pre-competitive research on production technologies within the European Research Area by engaging the European Commission through partnerships.

As a result, the Made in Europe Partnership will be the voice and driver for sustainable manufacturing in Europe. It will boost European manufacturing ecosystems towards global leadership in technology, circular industries and flexibility. The Partnership will contribute to a competitive, green, digital, resilient and human-centric manufacturing industry. It will be at the centre of a twin ecological and digital transition, both a driver and subject to these changes.

EFFRA counts on **over 200 members**, several Open Call for proposal opportunities, an Innovation Portal and several Communication activities (News, Events, Newsletter, Publications and Press Releases).

### 2.4.3. Project partners as a communication channel

It goes without saying that the key for both project and project results dissemination is to count on active partners in all social media, events and scientific publications. Especially, all partners that participate in the Work Package 6 (WP6).

WP6 is led by International Data Spaces Association (IDSA), and all partners have staff efforts. However, those that have a bigger staff effort are Innovalia, IDSA, CORE KENTRO

[1] Number of Tweets posted from march 2023 to june 2023.

KAINOTOMIAS AMKE, Engineering INGEGNERIA INFORMATICA SPA, POLITECNICO DI MILANO, and INDUSTRY COMMONS FOUNDATION (INSAMLINGSSTIFTELSE).

Therefore, it is key that especially the above-mentioned partners act as communication channels in their social media channels by reposting and sharing RE4DY and DFA posts and dissemination activities.

### 2.1.1 Other EU Project liaisons

On May 2023, a new initiative of Clustering HORIZON-CL4-2021-TWIN-TRANSITION-01-08 started with a meeting between three EU projects that have participated in the same EU Call. In this meeting, in addition to RE4DY, other 2 projects participated: Zero-SWARM and 5G Timber. Everything these EU projects have in common with RE4DY contribute to generating clustering efforts. Clustering consists in grouping unlabelled examples, in this case these 3 EU projects pretend to group and collaborate in order to further expand their communication, dissemination and exploitation possibilities in the future and to find bigger grounds of cooperation in the fields of data and 5G.

#### *2.1.1.1 Zero-SWARM*

Zero-enabling smart networked control framework for agile cyber physical production systems of systems (Zero-SWARM), is a project with a total public private investment of almost €10 million launched on the 1st June 2022, aiming to accelerate the uptake of advanced 5G technologies by European manufacturing sector. The project mission is to achieve climate neutral and digitized production via a multidisciplinary, human centric, objective oriented innovative approach resulting in technical solutions for open swarm framework, non-public 5G network, active information continuum and digital twin. In essence, it establishes a unique forum where separately maturing technologies of 5G and cloud-edge continuum, data technologies and analysis (including data spaces and GAIA-X) and operational technology (automation and agility) break their siloes to co-design and co-create through 10 trials.

#### *2.1.1.2 5G Timber*

The 5G-TIMBER project will address the challenges of the use of 5G and smart manufacturing being adopted in verticals with high-volume, easily standardisable, low-margin business models and small and medium manufacturers by developing 5G-enabled UCs and implementing field trials for different small and medium size manufacturing industries: small volume machinery, hand-assembled elements production, and construction focusing on the wood value chain (WVC).

# 3. Communication actions and early results

The communication actions in the first-year hammer into disseminating project concepts through branding kit logos, initial communication materials e.g., fact-sheet leaflets, press exposures, events organisation and participation, as well as full online presence (website, twitter, YouTube and LinkedIn Group). This set of communication actions pave the way for further impacts in project achievements, products and business potential.

## 3.1. Branding logo kit and communication materials

A set of logos and designs items has been created for website, social media accounts, leaflets, rollups, events setting and other occasions. By the first month into the project, the following communication materials are generated:

- Logo kit
- Social network resources (headers and avatars)
- PowerPoint Presentation template
- Word template
- Newsletter template


*Figure 5 - RE4DY Logo Kit*


*Figure 6 - RE4DY PPT template*


*Figure 7 - RE4DY Word template*


*Figure 8 - RE4DY Newsletter*

The logos and set of communication materials are the fundamentals for future communication activities. Partners should regard them as communication standards set by the Work Package 1 leader and comply with the visual identity guidelines for all relevant dissemination activities. After a careful review process, the newsletter will be part of the DFA newsletter that is sent once in a month with a target audience of 913 subscribers that fall within the above-mentioned target groups (in 2.3 section).

## 3.2. Leaflet


*Figure 9 - RE4DY Factsheet Leaflet*

A small factsheet leaflet has been developed for an easier and faster communication of the project design, implementation and results.

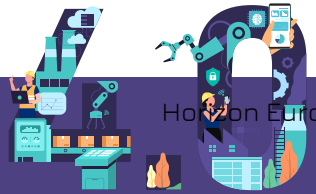
## 3.3. Offline dissemination

As planned in the Grant Agreement, the project will set up programmes of industrial demonstrations at major industrial events and fairs; and annual event for the presentation of the RE4DY results to the manufacturing industry in collaboration with major industrial and research associations in Europe.

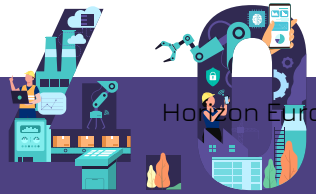
The chart below shows some of the most relevant events that have already taken place or are already planned and where the partners will attend.

*Table 5 – Some of the events*

| N° | Status | Type of event | Name of the Event | Event Description | Date & duration | City / Country | Type of Audience | Estimated # of participants |
|---|---|---|---|---|---|---|---|---|
| 1 | Attended | Forum | Data Spaces Discovery Day Barcelona | Tech experts and data enthusiasts joined IDSA in Spain for the first Data Spaces Discovery Day – a one day event all about data spaces! | 28/09/2022 (1 day) | Barcelona, Spain | Industry, SMEs, Policy Makers, Academia | 100 |
| 2 | Attended | Exhibition / Trade Shows | Digital Transformation Summit | The Madeira's Digital Transformation Summit responds to the challenge of the Digital Compass in a forum where the EU's Digital strategy is debated to achieve the visionary objectives at European and regional levels. Bringing together recognised individualities from the European Commission, Government, Academia and Industry, The Summit sets the scene for a human-centric vision in a digital society. | 24/10/2022 – 27/10/2022 (4 days) | Madeira, Portugal | Industry, SMEs, Policy Makers, Academia | 500 |
| 3 | Attended | Forum | Data Spaces Discovery Day Sofia | The event, hosted by GATE and IDSA together with partnering organizations and companies from the Bulgarian and European data sharing ecosystem brought together enthusiasts from Europe into an interactive discussion on the building blocks and enablers and demonstrating the business value of sovereign data sharing. | 09/11/2023 (1 day) | Sofia, Bulgaria | Industry, SMEs, Policy Makers, Academia | 100 |
| 4 | Attended | Conference | IOT Solutions World Congress | Emerging technologies are disrupting industry and technological innovation is rapidly changing our world. Traditional industry lines have blurred, with cross-sector ecosystems even more critical for success in today's digitally transformed, disrupted world. | 31/01/2023 - 02/02/2023 (3 days) | Barcelona, Spain | Technology Clusters | 12.000 |
| 5 | Attended | Exhibition / Trade Shows | Mobile World Congress Barcelona | MWC Barcelona is the world's most influential event for the connectivity industry. It's where world-leading companies and trailblazers share the latest thought leadership about the progression and future of connectivity. And it's the best place for networking opportunities with mobile and tech industry influencers. | 27/02/2023 - 02/03/2023 (4 days) | Barcelona, Spain | Industry, SMEs, Entrepreneurs | 88.500 |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6 | Attended | Conference | Data Spaces Symposium | The largest event on data spaces ever! Hosted by the Centre of Excellence for Data Sharing and Cloud (TNO), International Data Spaces Association, the Basic Data Infrastructure network and the Data Spaces Support Centre, boosted by the Data Spaces Business Alliance, organized together with EUHubs4Data and MyData Global – all relevant data sharing initiatives and endeavours at one place. | 21/03/2023 - 23/03/2023 (3 days) | The Hague, Netherlands | Industry, SMEs, Entrepreneurs, Policy Makers | 700+ |
| 7 | Attended | Exhibition / Trade Shows | Hannover Messe | World´s leading trade show for industrial technology. | 17/04/2023 - 21/04/2023 (5 days) | Hannover, Germany | Industry, SMEs, Entrepreneurs | 225.000 |
| 8 | Attended | Conference | Metromeet | METROMEET is a unique event and the most important conference in the sector of Industrial Dimensional Metrology. | 19/04/2023 - 20/04/2023 (2 days) | Bilbao, Spain | Industry, SMEs, Entrepreneurs | 70-80 |
| 9 | Attended | Conference | Technarte | The International Conferences on Art and Technology is an international reference for artists and professionals from the world of technology. It offers a mix between art and technology. | 19/05/2023 (1 day) | Bilbao, Spain | Industry, SMEs, Entrepreneurs | 70-80 |



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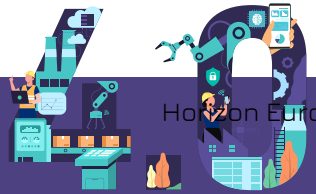
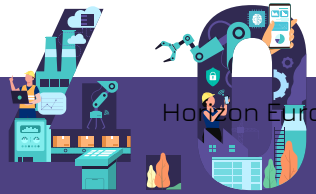
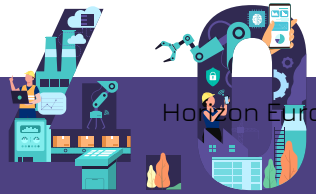
|---|---|---|---|---|---|---|---|---|
| 10 | Attended | Workshop | EU Data Space 4.0 week | Workshop on Data Spaces for Manufacturing and Digital Product Passports for Circularity: synergies, opportunities, and challenges | 16/06/2023 (1 day) | Hybrid, online / in person in Milan, Italy | Industry, SMEs, Entrepreneurs, Policy Makers | 75 |
| 11 | Attended | Workshop | Workshop FoF and MiE projects: challenges and opportunities | Organized by the European Commission, representatives from recently finished and ongoing Made in Europe (MiE) and Factories of the Future (FoF) projects shared experiences and work towards providing a set of recommendations for the Commission to consider for future R&I Work programme development. This meeting has raised the importance of the technology maturity and market uptake of key industrial solutions in Europe. | 27/06/2023 (1 day) | Online | Industry, SMEs, Academia, Policy Makers | 60 |
| 12 | Attended | Conference | Baidata Forum 2023: Data Meets Business | Meet the Iberian and international BAIDATA ecosystem: gain expert insights on data space and data sovereignty standards as promoted by IDSA, learn how data spaces open up new business opportunities and how to connect your business to European data spaces. The forum offers a unique opportunity for all interested stakeholders to meet face-to-face with Iberian BAIDATA pioneers and the leading industry community driving the evolution of the data economy. | 14/06/2023 (1 day) | Bilbao, Spain | Industry, SMEs, Entrepreneurs | 100+ |
| 13 | Planned | Conference | FIWARE Global Summit | An event for entrepreneurs, developers, technologists, researchers, startup and large companies working with public administrations and industries. -> Track for demonstrating the EIDS FIWRE CIM Connector. | 14/09/2023 - 15/09/2023 (2 days) | Gran Canaria, Spain | Industry, SMEs, Entrepreneurs | TBD |
| 14 | Planned | Conference | The Manufacturing Partnership Day | This event - co-organized by EFFRA and Factories of the Future and Made in Europe projects – will bring together the Factories of the Future and Made in Europe community and showcase ongoing project work to an audience of 350 to 400 experts | 26/09/2023 (1 day) | Brussels, Belgium | Industry, SMEs, Entrepreneurs, Policy Makers | 400 |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 15 | Planned | Conference | Data Spaces Discovery Days in Napoli | This event will bring together enthusiasts from Europe into an interactive discussion on the building blocks and enablers for data spaces and demonstrating the business value of sovereign data sharing. | 5/10/2023 - 6/10/2023 (2 days) | Naples, Italy | Industry, SMEs, Entrepreneurs, Policy Makers | 200 |
| 16 | Planned | Conference | QA Test | QA&TEST is a unique conference and will bring together professionals and experts from different sectors such as: Railways, Aeronautics, Medical Systems, Electronic Devices, Banking, Insurance or Telecommunications. | 18/10/2023 - 20/10/2023 (3 days) | Bilbao, Spain | Industry, SMEs, Entrepreneurs, | 80 |
| 17 | Planned | Conference | Data Spaces Discovery Day in Vienna | This event will bring together enthusiasts from Europe into an interactive discussion on the building blocks and enablers for data spaces and demonstrating the business value of sovereign data sharing. | 19/10/2023 (1 day) | Vienna, Austria | Industry, SMEs, Entrepreneurs, Policy Makers | 200 |
| 18 | Planned | Conference | European Big Data Value Forum (EBDVF) | The European Data Forum (EDF) is a key European event for industry professionals, business developers, researchers, and policy makers to discuss the challenges and opportunities of the European data economy and data-driven innovation in Europe. Likewise, the DVA Summit has quickly grown into a renowned event for all stakeholders in the European data economy. EDF and BDVA join forces to bring you the European Big Data Value Forum. | 21/11/2023 - 23/11/2023 (3 days) | Prague, Czech Republic | Technology Clusters | 400 |



| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 19 | Planned | Conference | IDSA Summit | As a participant -- "A new event format will be premiered in March 2018: at the Industrial Data Space Association Summit to be held in the PwC Experience Center (Frankfurt am Main) for two days from 22nd to 23rd of March 2018, the focus will be on the development and objectives of Industrial Data Space, and on its members as well. The summit is a chance to get to know more about the user association and the research projects, to actively participate in developments and to continue pushing the internationalization of Industrial Data Space." | TBD | TBD | Industry, SMEs, Entrepreneurs, | TBD |
| 20 | Planned | Ted Talks | Innovalia Ted Talks | Ted Talk on Legal Taxonomy | TBD | Online | Industry, SMEs, Entrepreneurs | TBD |
| 21 | Planned | Ted Talks | Innovalia Ted Talks | Ted Talk on Resiliency Framework | TBD | Online | Industry, SMEs, Entrepreneurs | TBD |
| 22 | Planned | Ted Talks | Innovalia Ted Talks | Ted Talk on Data as a Product | TBD | Online | Industry, SMEs, Entrepreneurs | TBD |
| | | | | | | | | |



## 3.4. Science Journals/Seminars

Scientific community is one of the most important target audience groups in the communication strategy. Research partners are encouraged to provide infrastructures and learning materials for higher education and training in the industrialists. Scientific essays and publications in scientific journals are expected as the project develops and shows result.

At M12, there has been at least one publication in a Scientific Journal supported by RE4DY results. Foivos Psarommatis Postdoctoral Researcher of University of Oslo, published in Science Direct at the Journal of Manufacturing Systems (Volume 68, June 2023, Pages 376-399) about "Envisioning maintenance 5.0: Insights from a systematic literature review of Industry 4.0 and a proposed framework".[2] This paper at a glance, investigates key factors of current research on Industry 4.0 maintenance, provides a comprehensive and systematic review method for the state-of- the-art analysis, provides an overview and classification of the literature on Industry 4.0 maintenance, designs a framework to map the important constructs in Industry 4.0, and sets the research agenda for future work and directions in the domain of maintenance.

## 3.5. Earned media coverage

The PR office deliberately plans and organises to work with media, to cover RE4DY and its campaign in regional and national press, magazines and web-based news media. Media coverage lends added to project credibility and its messages communicated, broaden the reach to general public audiences and enhance campaign visibility.

## 3.6. Website

The first version of the RE4DY website will is already available. The website will have a responsive design therefore the display will adapt to all devices. The website will serve as the information hub and ultimate reference for all the project activities updates, playing a key role in the online campaign and for communicating online performance evaluation.

The home page will be structured to demonstrate the mission statement, project basic information, RE4DY network map, events and news items, an interactive part to attract webpage visitors to subscribe to newsletters and contact information.

This website will incorporate new sections in the next months so as to be enriched with publications, articles, deliverables, reports, DFA information and direct link as well as direct contact information (email) other than LinkedIn and Twitter.

[2] Publication available here: https://www.sciencedirect.com/science/article/pii/S0278612523000730

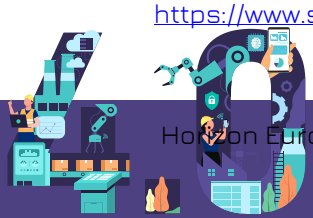



*Figure 10 - RE4DY website*

# 3.7. Social Media

The PR office designs and implements an integrated social media strategy to maximise the performance and engagement from the target audience, where Twitter, LinkedIn Group and YouTube actively contributes to RE4DY visibility throughout and beyond the project lifecycle. All actions in social media seek to generate synergies to bridge the gaps of communication as to connect the values of the project and related stakeholders on line with the values of target audience specified in the former chapter.

Social media actions aim to lay the groundwork for a future "RE4DY online community" that will be engaging enough to move the project forward, dynamic enough to keep the conversations going among key stakeholders and effective enough to have its members stay in the upfront of the trend of big data in factories, smart engineering, big data pipelines, fog computing and other hot topics in Industry 4.0, etc.

In addition, the social media network also serves as an extension of the reach of the website. Each news published in the website will be re-referenced to social media accounts, attracting more traffic back to the website, thus generating more project visibility.

## 3.7.1. RE4DY Twitter Account

The project has an account in Twitter @Re4dy_eu shortly defined as "manufacturing data networks" in the description. This Twitter account has 25 followers (as of May 2023) and is posting based on a weekly content planning calendar, around 2-3 times per week.

The objective of the project's twitter is to generate as much engagement as possible through likes, retweets, replies, profile links, etc. It aims to create a dynamic and fast-moving environment for target audience to always stay up to the trend of RE4DY activities and industry 4.0.


*Figure 11 - Twitter Avatar and Header*

The twitter activities will be monitored and measured using Twitter analytics. Tweet impressions, number of followers, likes, engagement rate, follower demographic, region, profession will be the metrics and KPIs. General data analytics in twitter account performance will be reported in the upcoming versions of communication plan and actions.

### 3.7.2. RE4DY LinkedIn Page

The project has a Page in LinkedIn called RE4DY. The LinkedIn Page description states: "European manufacturing industry needs to urgently depart from manual operations to integrate and manage their data space participation, significantly increasing capabilities for data engineering and management autonomy and integrated AI & digital twin continuous delivery." This LinkedIn Page has 75 followers (as of May 2023) and is posting based on a weekly content planning calendar, around 2-3 times per week.

LinkedIn Company Page functions as a professional online networking platform where RE4DY can address very specific and professional target groups. Different from Twitter account, the group does not aim to generate dynamic conversations, nor fast-pace post updates. Its main objective is to create a shared network for members, mainly our target audiences, to find each other and to get access to professional networking and share project outcomes.


*Figure 12 - LinkedIn Avatar and Header*

### 3.7.3. RE4DY YouTube Channel – DFA's Vimeo Channel

The initial plan was to create a YouTube channel in order to upload videos presenting the project profile and general concept and to give visibility to RE4DY activities and facilities. It was supposed to represent one of the information pillars with focused messages, being the ad-hoc multimedia material to support presence in booths, fairs and events, enriching the forms of RE4DY representation.

However, in the end, as part of the DFA's role as the RE4DY project's PR Office, the project will use the DFA's Vimeo channel and Digital Corner to upload RE4DY's project and result videos. The reason for this change is to reassure the project and project result dissemination and exploitation possibilities after the project ends.

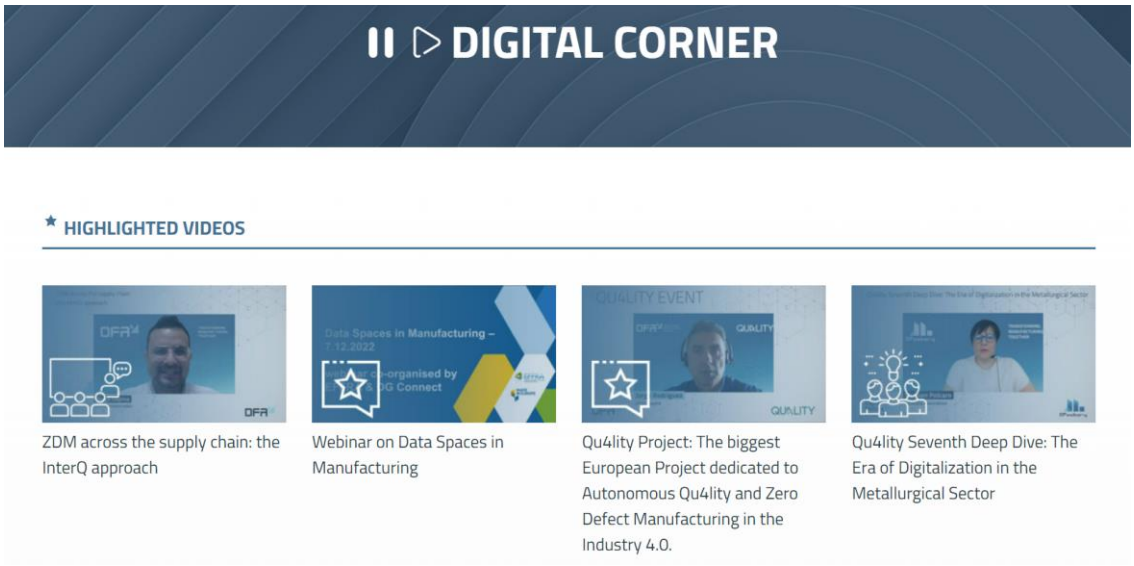



*Figure 13 – DFA's Digital Corner Channel for Videos and Webinars*

### 3.7.4. Stakeholders' Twitter & LinkedIn

The dynamic Twitter presents and the potential number of followers it can attract make it a principal online channel to disseminate RE4DY messages. Below can be found the potential audience in numbers as of May 2023:

| Twitter Account | # of followers | Description |
|---|---|---|
| EFFRA | 3.517 | Transforming manufacturing in Europe through the Factories of the Future partnership. |
| BDVA/DARIO | 3.871 | Big Data Value is the Public Private ecosystem around Big Data in Europe. |
| AIOTI | 1.987 | The European Alliance for Internet of Things Innovation. |
| CECIMO | 2.185 | CECIMO represents globally the common position of European Machine Tool Industries and related Manufacturing Technologies, and promotes co-operation with other organisations worldwide |
| DFA | 1.214 | International Trusted Community for Digital Factories to foster Knowledge Sharing and Industrial Collaboration to Achieve Data Driven Digital Transformation |
| GAIA-X | 4.226 | Initiative that develops a software framework of control and governance and implements a common set of policies and rules that can be applied to any existing cloud/ edge technology stack to obtain transparency, controllability, portability and interoperability across data and services. |

*Table 6 - Key Stakeholders Twitter Networks*

The same is applicable for LinkedIn:

| LinkedIn Page | # of followers | Description |
|---|---|---|
| EFFRA | 1.909 | Transforming manufacturing in Europe through the Factories of the Future partnership. |
| BDVA/DARIO | 3.930 | Big Data Value is the Public Private ecosystem around Big Data in Europe. |
| AIOTI | 1.411 | The European Alliance for Internet of Things Innovation. |
| CECIMO | 3.860 | CECIMO represents globally the common position of European Machine Tool Industries and related Manufacturing Technologies, and promotes co-operation with other organisations worldwide |
| DFA | 327 / 1900+ | International Trusted Community for Digital Factories to foster Knowledge Sharing and Industrial Collaboration to Achieve Data Driven Digital Transformation |
| GAIA-X | 12.071 | Initiative that develops a software framework of control and governance and implements a common set of policies and rules that can be applied to any existing cloud/ edge technology stack to obtain transparency, controllability, portability and interoperability across data and services. |

*Table 7 - Key Stakeholders LinkedIn Networks*

The PR Office is using and planning to continue using all these stakeholders as communication channels for RE4DY's project and project result dissemination and communication strategy.

# 4. Key Performance Indicators (KPIs)

The Plan includes relevant Key Performance Indicators (KPIs) as described in the Table below, these KPIs are established as a success criterion of the project communication progress. What was established in the Grant Agreement is taken as a reference of Planned and there is a new column for M12 status.

| Type of Dissemination Activities | Key Performance Indicators (KPIs) | | | |
|---|---|---|---|---|
| | Planned in total | Description | Planned | M12 (MAY 2023) |
| Website | 1 | Created websites | 1 | 1 |
| Articles | 22 | Published in other media | 5 | 0 |
| | | Published in RE4DY website | 7 | 0 |
| | | Published in partner websites | 10 | 1 |
| Publications | 10 | # Publications | 3 | 1 |
| Newsletter | 9 | Subscribers | 1000 | 912 |
| | | # Newsletter posts | 9 | 0 |
| Events | 28 | Industry events / Fairs / Exhibitions | 3 | 2 |
| | | EU Networking events | 2 | 0 |
| | | Academic / Scientific events / Conferences | 20 | 4 |
| | | RE4DY Innovation Events | 2 | 0 |
| | | RE4DY Demonstrations | 1 | 0 |
| Datasets | 8 | # of Datasets | 8 | 0 |
| Twitter | 600 | Twitter followers | 600 | 1.239 |
| | | Average month impressions | 100 | |
| LinkedIn Page | 800 | LinkedIn followers | 800 | 410 |
| | | Average impressions per post | 100 | 33 |
| Video channel (DFA's Vimeo) | 9 | # of Videos | 9 | 0 |
| | | Views per video | 50 | 0 |

*Table 8 – RE4DY KPIs at M12*

# 5. Skills development

Access to skilled workers is already a key factor that sets successful companies apart from failing ones.

Organizations identify indeed skills gaps and an inability to attract talent as the key barriers preventing industry transformation, with 60% of surveyed companies highlighting the difficulty in bridging skills gaps locally and 53% identifying their inability to attract talent as the main barriers to transforming their business (Figure 14)[3].

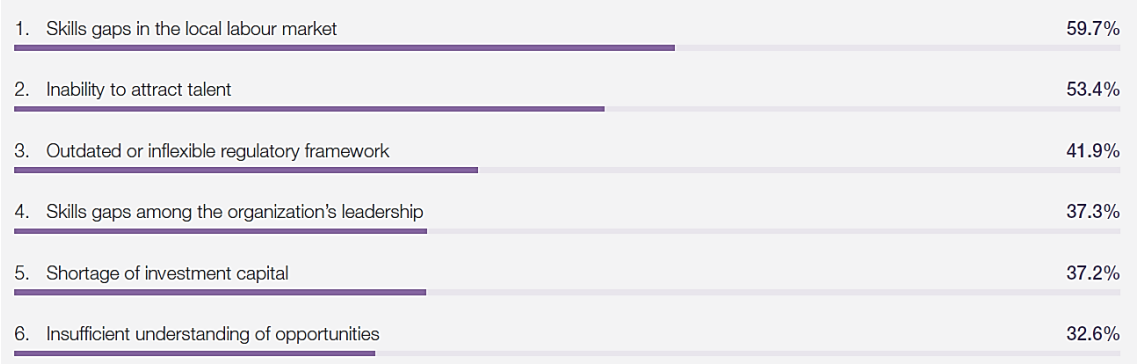


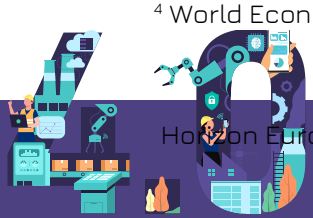

*Figure 14 - Barriers to business transformation[4]*

Considering RE4DY "Data as a Product" concepts, tools, and solutions and within the framework of task 6.2, "Didactic & Learning Factory Network Academy and European Network of DIHs", at the first stage a network of didactic factories and digital innovation hubs will be established to foster skills gaps identifications and assessments by performing an extensive service portfolio analysis of the members while in the second stage a maturity assessment model will be exploited to define a roadmap for equipping people with the essentials soft and technical skills within the context of RE4DY toolkits and concepts.

## 5.1. Didactic and Learning Network

The RE4DY network of DIHs (Digital Innovation Hubs) and Didactic and Learning Factories makes synergies with other initiatives in order to maximize the outreach benefiting from efforts done in other European projects and DIH networks already established in order to expand it and makes it more competent by focusing on the skills and services which are necessary based on RE4DY pillars and concepts. The DIHs and DFs included in this network has been investigated in case of their service portfolio to better present their current service configuration which can facilitate planning a better transfer skill among their employees and personnel. The proposed methodology for service portfolio analysis of the DIHs and Didactic and Learning Factories is "DR-BEST", (Data, Remotization, Business, Ecosystem, Skills, Technology), consisting of 6 macro-classes that in which of these macro-classes there are related services and their descriptions (Figure 14).

[3] World Economic Forum, Future of Jobs Report 2023.
[4] World Economic Forum, Future of Jobs Survey 2023.



Here with respect to the need to consider capabilities related to the skills of the enterprises, the Skills macro-class has been investigated to understand the strengths and weaknesses among network members.

### Skills macro-class

The *Skill* macro-class has two objectives. The first step is to evaluate the present situation for organizations that want to approach digitization, in terms of both process/organizational and skills maturity, and to set an appropriate path to empower it. The second is to support the empowerment of skills through sharing channels, structured contacts, and collaborations for knowledge-transfer scouting and brokerage in addition to educational programs, up-skilling, and re-skilling training. Three main *types* of services have been declined in the following *classes* of services:

The first type of services is *Process & organizational maturity,* declined in two classes of services:

1. *Maturity assessment*: Assessment of company readiness for Industry 4.0 (tech, organizational, and ecosystem readiness). It can be also in the shape of a self-assessment to prepare themselves before proceeding to work with the DIH.
2. *Maturity strategy development*: Definition of a roadmap starting from the characteristics of the single enterprise or part of it. The roadmap design is based on the outcome of the assessment, and it proposes possible technologies, new solutions or new business models to be adopted.

The second type of services is *Human capabilities maturity*. It is declined in two classes:

1. *Human skill repository*: making available an online repository containing catalogue for AI resource, documentations, training material, papers, etc.
2. *Human skills maturity*: support in capabilities screening through on-site visit(s), interviews, etc. and definition of the actual level of skills maturity in Industry 4.0.
3. *Skills strategy development*: gap analysis between the AS IS and the desired level of AI skills, action plan definition and support to implementation.

The third type of services is *Skills improvement*. It is declined in three classes of services:

1. *Human up-skilling, re-skilling training*: Life-long training on technical and soft skills focused on AI at corporate level, operational and technology specific level. Training is addressed to the workforce, to be able to deal efficiently with the newly digitized products, processes, or business models; to management, in order to overcome the cultural barriers; to trainers ("train to trainers"), to keep them constantly updated regarding new AI solutions.
2. *Educational programs*: attracting and forming next generation talents, forming Industry 4.0 employees and workers.
3. *Scouting and brokerage*: support in identifying channels, structure contacts and collaborations intended to knowledge-transfer, etc. with the aim to provide examples of existing (European) hubs and their approach to AI topics, and to combine new trainings with already existing capacity building materials developed by previous projects and from other reputable sources.
4. *Standardization and certification*: standard methods and tools for standard certifications.

A clear picture of the opportunities and collaborations could be depicted to open the door for skills development within the RE4DY project by understanding the skills services that the network could provide while taking into account the most relevant digital skills regarding RE4DY concepts and tools as well as interconnection with DIHs network already available in other European projects such as AI-REGIO and AI-REDGIO 5.0, etc.

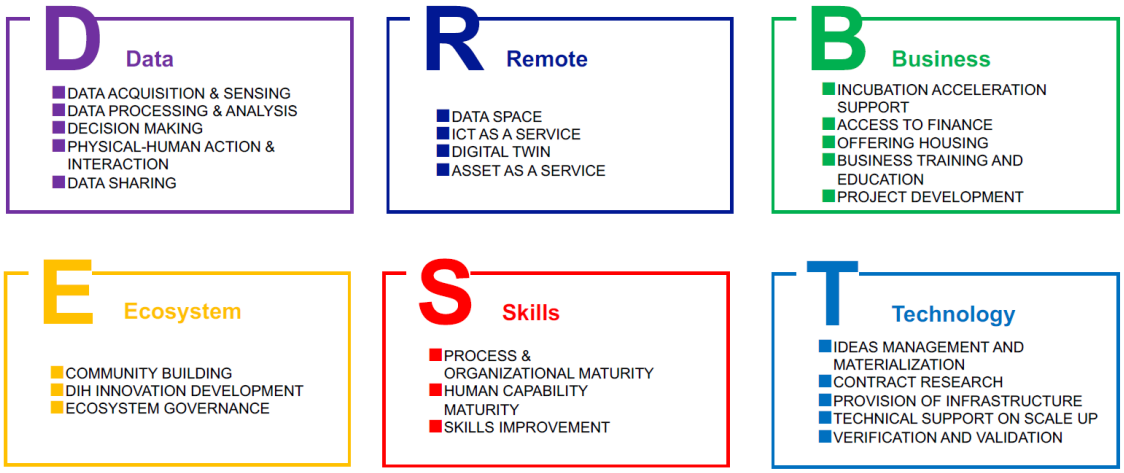



*Figure 15 - DR-BEST taxonomy - level 1 and 2*[5]

## 5.2. Skill development methodology

In the context of data-driven manufacturing, there are several digital skill gaps that can exist within an organization. These gaps can hinder the effective implementation and utilization of data-driven technologies and processes. Some key skill gaps include:

1. Data Analysis and Interpretation: Manufacturing organizations often struggle with the ability to analyse and interpret large volumes of data generated by sensors, machines, and other sources. Skills in data analytics, statistical analysis, and data visualization are crucial to extract insights and make data-driven decisions.

2. Data Management and Governance: Managing and governing data in a manufacturing environment requires knowledge of data architecture, data integration, data quality, and data security. Organizations need skilled professionals who can design and implement data management strategies to ensure the availability, integrity, and confidentiality of data.

3. Machine Learning and AI: Leveraging machine learning algorithms and artificial intelligence (AI) techniques is essential for optimizing manufacturing processes, predictive maintenance, quality control, and demand forecasting. Skills in machine learning algorithms, model development, and algorithm deployment are necessary to harness the potential of AI in manufacturing.

4. Internet of Things (IoT) and Connectivity: IoT devices and connectivity play a vital role in capturing real-time data from manufacturing equipment, enabling remote monitoring, and facilitating predictive maintenance. Skills in IoT device management, network

[5] Razzetti, Silvia, Sergio Gusmeroli, Sergio Terzi, and Claudio Sassanelli. 2022. "METHOdology for DIH: Adding the Remote Macro-Class to the D-BEST Reference Model." *CEUR Workshop Proceedings* 3214.

infrastructure, and cybersecurity are necessary to effectively deploy and manage IoT systems.

5. Programming and Automation: Proficiency in programming languages (e.g., Python, R) and automation tools is crucial for developing custom data-driven solutions, building data pipelines, and automating repetitive tasks. These skills are essential for integrating data from various sources, developing algorithms, and implementing data-driven workflows.

Addressing these skill gaps requires a combination of training programs, hiring strategies, and collaboration with external experts or consultants. Organizations can invest in upskilling their existing workforce, hiring data specialists, and fostering a culture of continuous learning to bridge the digital skill gaps in data-driven manufacturing.

### 2.1.2 6P Methodology

The 6Ps methodology, as the name suggests, is not a physical asset but a set of guidelines (equipped with a survey) to be followed in order to identify a digital transformation roadmap and/or to measure a project impact in terms of digitalisation, addressed to manufacturing enterprises. Hence, it does not require a proper training to be "adopted" by the final user (since it is just a matter of performing an assessment), but in the perspective of increasing the number of final users, we are planning to train technology providers/DIHs about how to present the 6Ps assessment to the enterprises in their community.


*Figure 16 - The six Pillars of the 6Ps methodology*

The six dimensions of analysis (from which, the name "6Ps") are: Product, Process, Platform, People, Partnership and Performance, grouped in three "technical" and three "socio-business".

Each dimension is then subdivided into six areas, apart from People, which has an additional segmentation based on the firm's profiles. Each area is rated using a 5-level DM scale, where level 1 (INITIAL) denotes the least amount of adoption of digital solutions and level 5 (EXPLOITED) denotes an area where adoption of digital solutions is at the cutting edge of the sector. Regarding the six dimensions individually Figure 16 shows an overview of the areas that compose them.

| Product | Process | Platform | People | Partnership | Performance |
|---|---|---|---|---|---|
| **[1.1]** Integration of Sensors/Actuators | **[2.1]** Design & Engineering | **[3.1]** CPS and Embedded Systems | **[4.M1]** Industry 4.0 Strategy | **[5.1]** Digital Innovation Hubs | **[6.1]** Operational / Technical |
| **[1.2]** Communication / Connectivity | **[2.2]** Production Management | **[3.2]** Industrial Internet of Things | **[4.M2-4.P1-4.O1]** Smart Operations | **[5.2]** Research & Innovation | **[6.2]** Economic |
| **[1.3]** Storage and Exchange of Information | **[2.3]** Quality Management | **[3.3]** Industrial Internet | **[4.M3-4.P2-4.O2]** Smart Supply Chain | **[5.3]** Training & Education | **[6.3]** Environmental |
| **[1.4]** Monitoring | **[2.4]** Maintenance Management | **[3.4]** Industrial Analytics | **[4.M4-4.P3-4.O3]** Smart Product-Service Engineering | **[5.4]** IT Solutions Providers | **[6.4]** Social |
| **[1.5]** Product-related IT Services | **[2.5]** Logistics Management | **[3.5]** Vertical interoperability of data and events | **[4.P4]** Industry 4.0 Infrastructure | **[5.5]** Suppliers | **[6.5]** Product-Service Lifecycle |
| **[1.6]** Business Models enabled by the Product | **[2.6]** Supply Chain Management | **[3.6]** Horizontal interoperability of data and services | **[4.P5]** Big Data | **[5.6]** Customers | **[6.6]** Supply Chain |

*Figure 17* - Summary of the 6P MM's areas addressed

The methodology includes a tactical assessment that assists enterprises in identifying the main gaps to be filled with a digital transformation process, as it is necessary to evaluate both the current and expected level for each pillar and sub-dimension.

The 6Ps methodology can be applied at to different levels:

**Enterprise level**: it is addressed to enterprises willing to start a digital transformation journey.

**Experiment pilot level**: it is addressed to enterprises involved in research projects willing to measure the benefit deriving from the implementation of the project's solution.

The former are typically organizations that are aware of their gaps in the digital landscape, but they lack the knowledge to pinpoint the necessary steps to get there and need outside assistance to prioritize them. The second group consists of research project partners, and their digital transformation is in part a result of the project itself. In this situation, the 6Ps methodology is a useful tool to assess the project's effects on the company and to identify areas that still require improvement.

To enhance the capabilities of the workforces in the path to digital transformation of organizations and within the context of RE4DY T6.2, the focus here will be on **People** dimension of the 6P methodology.

The **People** dimension seeks to assess the skills held or to be held by the human capital of manufacturing SMEs. Due to the high variance in the roles operating in the sector, this pillar has been divided into three macro-profiles extending the view of: Operators & Technicians, Professional & Engineers, and Managers & C-Levels. While the six areas are as follows: Industry 4.0 Strategy to assess the level of awareness of Industry 4.0 and participation in Industry 4.0-related projects; Smart Operations evaluates how digital technologies are used in place of traditional tools to run operations. Smart Supply Chain evaluates the level of digitalization of tools and skills used in this field, Smart Product-Service Engineering evaluates the skills and tools used during the product development phase, Industry 4.0 Infrastructure evaluates the level of skills in the field of Industry 4.0 Technologies available within the firm, and Big Data evaluates the level of skills in the field of big data.

Here in order to apply the 6P methodology concentrating on People dimension, following steps should be implemented:

A presentation containing an overview of the methodology.

The online survey, to be compiled by the enterprises evaluating for people dimension and sub-dimension their current and expected level.

The analysis of the gathered surveys

Defining the road map to reach the expected level of workforce skills and capabilities.

According to World Economic Forum, Future of Jobs Report 2023, surveyed companies report that investing in learning and training on the job and automating processes are the most common workforce strategies which will be adopted to deliver their organization's business goals in the next five years (Figure 18).

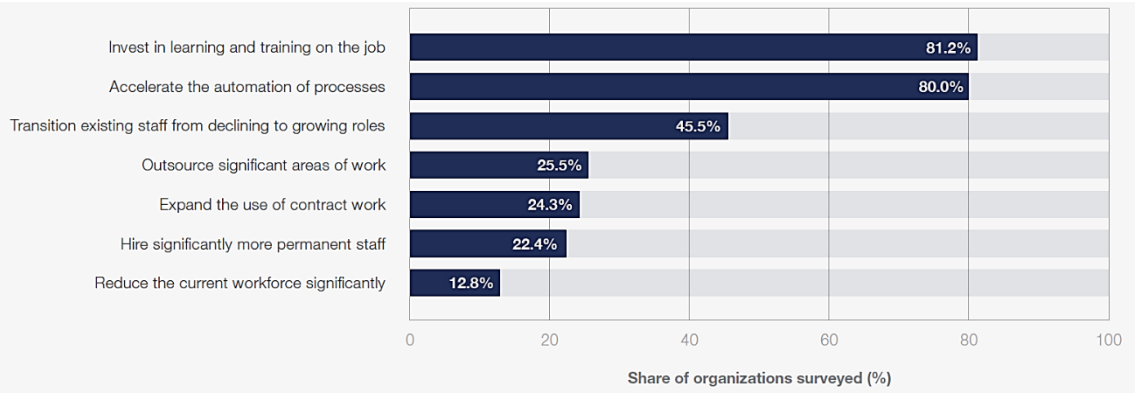



*Figure 18* - Share of organizations surveyed planning to adopt these workforce strategies

The re-skilling and upskilling of the RE4DY pilots' workforces will be based on available training materials (both free and for sale) related to the required skill gaps concerning RE4DY concepts and tools. The training material will be integrated with courses developed by technical contributors of RE4DY toolset, and these self-developed courses could be available on of the platform investigated for existing topics. A preliminary list of these platforms could be as follows:

- **MOOCS - POLIMI OPEN KNOWLEDGE (POK)**, inaugurated on June 2014 by Politecnico di Milano, is the first Italian MOOCs portal (Massive Online Open Courses) providing online courses free and open to everybody.

- **Skills.move** is EIT Manufacturing's learning platform supporting Europe's manufacturing industry to upskill, and reskill its current and future workforce by providing individuals easy access to a personalised learning experience.
- **Coursera**
- **Google Digital Garage**
- **AI On Demand-** The AI-on-Demand Platform (AIoD) is a community-driven channel designed to empower European research and innovation in Artificial Intelligence (AI), while ensuring the European seal of quality, trustworthiness and explainability[6].
- **Cloud Academy**
- **Future Learn** -a UK-based online learning platform that partners with universities and organizations to offer a wide range of courses, programs, and degrees online.

# 6. Conclusion

Work Package 6 is strategically set to raise awareness and maximise visibility of RE4DY and its vision of building a "Data as a Product" model for manufacturing companies.

To accomplish this objective, the consortium has set a three-phase communication strategy. This strategy is based on using communities as dissemination channels, with the DFA as its main channel of communication, based in a timeline and main messages. Likewise, communication actions are planned to reach different target audiences and achieve different impact KPIs. RE4DY's Communication Strategy has focused on utilizing digital and physical communities as communication channels, mainly due to the long-lasting character of communities and the bigger impact that can be achieved as a consequence of having larger audiences than project communication channels.

In addition to the DFA, the main communication channel and community of the project RE4DY, another community that is serving the RE4DY project as a communication channel is the European Factories of the Future Research Association (EFFRA). EFFRA counts on over 200 members which widens the potential outreach effect of the project itself. Another important channel are project partners. It goes without saying that the key for both project and project results dissemination is to count on active partners in all social media, events and scientific publications. Especially, all partners that participate in the Work Package 6 (WP6).

During M1-M6 of the project, the communication strategy focused on disseminating the information of the project, more oriented to industry, SMEs and related European initiatives and from M3 and beyond the focus has been on the Open Calls and project progress and results. Among the communication actions developed in this timelapse, the project branding logo kit and communication materials (PPT Template, Word Template, Newsletter format), project website, and the creation of project social media channels (Twitter and LinkedIn) are the most highlightable.

During M6-M12, the communication strategy has focused on nurturing communication channels with content. Among other communication actions developed in this timelapse, the team has created its first project leaflet, developed a content planner for social media (starting May 2023), started using the DFA's Vimeo Channel for project result communication… In addition, there has been at least one publication in a Scientific Journal supported by RE4DY results. Regarding the offline communication activities, the RE4DY consortium has actively participated and planned to participate in several events (18) to further widen the impact of the results of the RE4DY project.

In addition, to strengthen RE4DY message, in M1-M6 a Skill Development plan was elaborated. The activities pursue to provide the necessary knowledge on the digital field across the parties involved. In M6-M12, this Skill Development plan has advanced and further developed with Didactic and Learning Network, Skill Development Methodology and the 6P Methodology.

Further communication plans of the RE4DY project pursue to further structure the RE4DY project website by adding new sections (publications, deliverables, DFA Information and direct contact information), widen the RE4DY project impact with social media posting and planning both in project social media and community channels (DFA & EFFRA), and further advance in the accomplishment of the established communication KPIs.